

Abstract of the Disclosure

Disclosed herein are methods and compositions for identifying morphogen analogs. The preferred methods and compositions relate to the discovery that morphogen upregulation of the mouse type X collagen promoter activity is mediated by a MEF-2 like sequence and requires an adjacent AP-1 sequence. Certain methods rest on the use of test cells comprising DNA defining a morphogen-responsive transcription activating element operatively associated with a reporter gene. Other methods rest on the use of DNAs for measuring morphogen-inducible DNA-binding. In certain preferred embodiments, the methods and DNAs involve an osteogenic protein 1 (OP-1) responsive transcription activating element. Substances that mediate interaction with and/or activate the OP-1 responsive transcription activating element are considered herein likely to be useful for reproducing *in vivo* effects of morphogens such as OP-1.

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